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T-D

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/453,055 12/02/99 YAMAGUCHI E 32405W027

IM22/1018
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EXAMINER

AFTERGUT, J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED:

10/18/01

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/453,055

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Jeff H. Aftergut

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Election/Restrictions

1. Newly submitted claims 14 and 15 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 14 and 15 relate to a species of material useful for adjustment of the viscosity of the films (short fibers or non-woven fabrics) which was an alternative to the glass microspheres of originally presented claims 3 and 5 (also see the specification at page 7, lines 5-11). Because they were disclosed as mutually exclusive viscosity adjusting means, glass microspheres or short fibers (or nonwoven fabric) are species of invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14 and 15 have been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cundiff et al in view of Lubin (the glossary from the "Handbook of Composites"), newly cited.

Cundiff et al is cited for the same reasons as previously submitted in paper no. 4, paragraph 3 and applicant is referred to the same for a complete discussion of the reference. The reference taught the use of uncured adhesive films 14a, 14b as well as uncured prepreg 16a, 16b upon the cells of the honeycomb material. Onto this assembly one placed a dry fabric layer 18a, and 18b. As set forth in paper no. 4, the use of the uncured adhesive films 14a, 14b, as well as

Art Unit: 1733

the use of uncured prepreg layers 16a, 16b were taken as thermosetting sealing material. The applicant has argued that such materials are not thermosetting. However, as set was notoriously well known in the art of adhesives, material which cured during bonding was a thermosetting material. It should be noted that to further evidence the same the glossary from the "Handbook of Composites" from Lubin is cited herein. This is not a new ground of rejection; rather the reference to Lubin is cited to show factually that a curable material is in fact thermosetting. In particular, the applicant is referred to the definition of thermoset and cure where when one cured, one changed the properties of the resin with the action of heat or pressure (or both) and where one would have understood that a thermoset resin was a plastic which "when cured" changed into a substantially infusible state. Additionally, the definition of prepreg states that the resin is usually in a "B-stage" and the definition of "B-stage" made it clear that this stage in the curing process was applicable to thermosetting resins. Clearly, the uncured film and the uncured prepreg of Cundiff were indeed thermosetting resins which were not yet completely cured. The applicant is additionally advised as addressed in paper no. 4 that the film and prepreg of Cundiff clearly prevented the resin used to impregnate the dry perform in the resin transfer molding operation from penetrating into the cells of the honeycomb and as such were clearly sealing materials, see column 7, lines 14-26, for example. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Cundiff to form a honeycomb assembly which included a core which was left unfilled with resin wherein the same was achieved with sealing films of resin which were used to attach the perform to the core prior to impregnation wherein these uncured films were well recognized as thermosetting as evidenced by Lubin.

Art Unit: 1733

4. Claims 3-6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth above in paragraph 3 further in view of Fellman et al, Ahrens et al, and Browne optionally further taken with Narita et al for the same reasons as expressed in paper no. 4, paragraph 5.

Note regarding claims 10-13 that these claims are identical to claims 3-6 except that these claims depend upon claim 2 rather than claim 1 and are rejected for the same reasons as identified in paper no. 4 regarding the same.

Response to Arguments

5. Applicant's arguments filed 9-12-01 have been fully considered but they are not persuasive.

The applicant is advised that the reference to Cundiff et al clearly taught that the films 14a and 14b were uncured adhesive films. One skilled in the art would have readily appreciated that an uncured film which was later cured was a thermosetting adhesive film. Lubin in the glossary of the Handbook of Composites evidenced this fact (that a curable adhesive was in fact thermoset). Additionally, the reference to Cundiff suggested that one skilled in the art would have employed a prepreg layer which was uncured between the dry fabric perform and the honeycomb. Again, a prepreg was a material which was thermoset as evidenced by Lubin wherein the resin was in a B-staged state and such was a typical state of a thermosetting resin. The applicant's argument that Cundiff did not teach a thermosetting resin is therefore unpersuasive.

Additionally, the reference to Cundiff clearly employed the uncured prepreg layer and the uncured resin film layer in such a manner as to seal off the cells of the honeycomb material to

Art Unit: 1733

prevent infiltration of the resin into the cells of the same. This was done by curing the prepreg layer and the adhesive film (which attached the dry perform to the honeycomb material as well) prior to the impregnation of the dry perform in a resin transfer molding operation whereby resin was prevented from migration into the cells of the honeycomb material. One skilled in the art reading the reference as a whole would have understood that the prepreg and uncured film acted as a sealing material. The applicant's arguments in this regard are not persuasive and applicant is referred to column 3, lines 16-25, for example, of Cundiff.

The applicant argues that the references to Fellman et al, Ahrens et al, Browne, and Narita and states that the references relate to lamination of syntactic foam and prepreg together while the claimed invention does not use a prepreg. As addressed above, the reference to Cundiff taught the use of prepreg and adhesive film as the sealing layer. To use a layer of syntactic foam (which included resin and glass microshperes) instead of the resin film and/or prepreg material would have been obvious because it would have provided one with increased stiffness (which was desired for aerospace applications which Cundiff envisioned) as well as a reduction in cost to manufacture (while achieving a high stiffness in the material). The applicant also noted that these references (Fellman et al, Ahrens et al, Browne, and Narita) failed to teach that one skilled in the art would have used the same as a sealing material. While this is true, the reference to Cundiff suggested that those skilled in the art would have understood that the pre cured layers of adhesive film and prepreg acted as a sealing material. While the references to Fellman et al, Ahrens et al, Browne, and Narita do not expressly state that the microspheres were added to the thermosetting resin in order to attain a viscosity modification, they need not. They merely must provide some reason as to why one skilled in the art would have incorporated the microspheres

Art Unit: 1733

into the resin composition (which they do as addressed above). The It has long been held that while the reason for inclusion of the microspheres might be different this does not alter the conclusion that their use in the resin composition would have been prima facie obvious for the purposes disclosed by the references, see In re Lintner, 173 USPQ 360, In re Shetty, 195 USPQ 753, In re Hoch, 166 USPQ 406 and In re Wilder, 166 USPQ 545.

No claims are allowed.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 703-308-2069. The examiner can normally be reached on Monday-Friday 6:30-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the

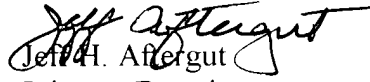
Application/Control Number: 09/453,055

Page 7

Art Unit: 1733

organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
October 17, 2001